

CLAIMS

What is Claimed is:

1. A method of recording main data on an optical information recording medium, the method comprising:

error correction code (ECC)-encoding the main data to generate a plurality of ECC blocks, wherein each of the ECC blocks comprises a plurality of sectors having corresponding identifiers; and

extracting and arranging the identifiers from ones of the ECC blocks to generate a recording block such that adjacent identifiers are of different ECC blocks.

2. The method according to claim 1, further comprising:

modulating the generated recording block; and  
recording the modulated recording block.

3. The method according to claim 1, wherein said extracting and arranging of the identifiers comprises:

alternately and equally extracting and arranging the identifiers at predetermined intervals; and

interleaving the ECC-encoded main data included in the sectors corresponding to the arranged identifiers.

4. The method according to claim 3, wherein said interleaving of the ECC-encoded main data is performed in units of one or more rows.

5. The method according to claim 3, wherein said interleaving of the ECC-encoded main data is performed in units of at least a part of the sectors.

6. A method of recording main data on an optical information recording medium, the method comprising:

error correction code (ECC)-encoding the main data to generate first and second ECC blocks, each of the first and second ECC blocks comprising sectors and each of the sectors having an identifier;

arranging an identifier included in a first one of the sectors of the first ECC block as a first identifier;

arranging an identifier included in a first one of the sectors of the second ECC block as a second identifier;

arranging an identifier included in a second one of the sectors of the first ECC block as a third identifier;

arranging an identifier included in a second one of the sectors of the second ECC block as a fourth identifier;

arranging identifiers included in the remaining sectors of the first and second ECC blocks with the same alternating pattern;

interleaving the ECC-encoded main data included in the first sectors of the first and second ECC blocks to sequentially correspond to the first arranged identifier and the second arranged identifier;

interleaving the ECC-encoded main data included in the second sectors of the first and second ECC blocks to correspond to the third and fourth arranged identifiers; and

interleaving the ECC-encoded main data included in the remaining sectors of the first and second ECC blocks with the same algorithm to generate a recording block.

7. The method according to claim 6, further comprising:

modulating the generated recording block; and

recording the modulated recording block.

8. The method according to claim 6, wherein the identifiers are alternately and equally extracted and arranged at predetermined intervals in said arranging operations.

9. The method according to claim 6, wherein said interleaving of the ECC-encoded main data is performed in units of one or more rows.

10. The method according to claim 6, wherein said interleaving of the ECC-encoded main data is performed in units of at least a part of the sectors.

11. The method according to claim 7, wherein said modulating method is an eight to fourteen modulation plus (EFM+).

12. The method according to claim 7, wherein the recording of the modulated recording block includes recording a channel bit stream pulse that is converted from a modulated bit stream by non return to zero inversion coding.